RESEARCH ARTICLE

The usage of Web tools in Extension Service Delivery among agricultural extension workers   in Ekiti state. Nigeria

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Abstract

The advent of Covid-19 pandemic has contributed meaningfully to ICT in terms of its relevance, those that deal with communication like agricultural extension had no choice than to flow with the current trend of communicating with their clientele with the use of certain ICT tools such as the web-based tools. This enables a free flow and continuous contact with the farmers on updated information that is useful for agricultural productivity. The study therefore was conducted to assess the usage of web tools among the agricultural extension workers in south-west Nigeria, the study was carried out to: examine the socioeconomic characteristics of extension workers, determine the extension workers on the usage of web tools in disseminating agricultural information and constraints facing the usage of web tools in disseminating of agricultural information. The study was carried out in Ekiti states Nigeria. Multi-stage sampling techniques was adopted. Primary data were collected and analyze using descriptive. The findings also show that respondents are high using of most the web tools such as facebook, whatapps, tiwtter etc for disseminate agricultural information to the farmers. Furthermore, the findings show that web tools usage has crucial role to play in promoting quality extension delivery, best agronomy practices and promoting new generation agriculture and make agriculture more lucrative and sustainable as well as improving livelihood in Nigeria. However, some constraints were identified with the use of web tools during the period of carrying out this study, such constraints are: poor internet coverage, lack of awareness of information sources available and untimely provision of information, high cost, complex to use, it requires special types of devices to use some of the webtools etc.
The study therefore concludes that if the constraints faced was solves then the level of usage webtools will increase and enhance agricultural productivity. However, the study recommended that both agricultural extension workers needs to be trained on almost all the identified web tools.

Keywords: webtools; Usage; Extension; information sharing

Introduction

Web tool technologies enable people to create, modify, and share information online (Aharony,2008). These technologies include blogs, forums, wikis, micro-messaging, cloud computing, RSS feeds, SNSs, multimedia sharing, social bookmarking, and podcasts (Baro, Ebiagbe and Godfrey 2013). Web tools are used to improve collaboration, communication, and interaction in learning contexts (Narayan and Baglow 2010). In North America and Europe, Web tool technologies are used to send course outlines, questions and answers to assignments and assessments, audio or video instructional materials to agricultural extension agents (Kumar 2008). Despite the rising use of Web tools to help education, Africa, notably Ghana, Tanzania, and Nigeria, uses them very little (Lwoga 2012; Munguatosha, Muyinda and Lubega 2011).

Wide usage of information technology (IT) in Agricultural Development Program in several parts of the nation, especially southwest Nigeria, is largely recognized (Arokoyo 2007; Adetimehin et al 2018).

The few extension officers exclusively work in metropolitan regions, ignoring rural areas. Frontline extension agents are important because they have direct interaction with agricultural technology end-users. FAO recommends that one extension agent assist 1,000 farm households in underdeveloped countries due to their role in modernizing agriculture.

Rapid social media development may be used as a learning resource and agricultural information media to address

farmer difficulties. Muslihat et al. (2015) said the community's media consumption affects the extension's competence. The more xtension agencies utilize media, the more they know and can help farmers. Some individuals may exchange ideas, operate to make inventions, sights, and arguments, and discover wonderful friends or partners and develop a community using social networking (Nasrullah 2017). Low-income agricultural extension workers. Low webtool skills among agricultural extension employees must be addressed.

Despite the promise of Web tools to facilitate knowledge generation, sharing, and collaboration, little is known about their use in Nigeria for extension delivery.

The aim of this study is to assess of usage web tools in extension services delivery among agricultural extension workers in southwestern Nigeria

The specific objectives are to:

i.   Examine the socioeconomic characteristics of extension workers.
ii.   Determine the usage of web tools in disseminating information among extension workers.
iii. Identify the constraints facing the usage of web tools in disseminating of agricultural information.

Methodology of the study

The study was carried out in Ekiti Nigeria due to the preponderance of extension workers. A Multi-stage approach was utilized to choose respondents from Ekiti zone to acquire a representative sample and accomplish the study's goals.

Stage 1- in the first stage, three local government randomly selected from the state which are Ikere, Ekiti west, Oye States. **Stage 2:** the second stage involved all agricultural development zones (ADP)from each of the selected states which are ikere, Aramoko, Isan Ekiti zones. **Stage 3:** The third stage involved purposively selected all the extension workers. A proportionate random sampling technique was used to obtain the sample size for each of the state based on their numerical strength and the respondents were interviewed using structured interview schedule. Data generated were analysed using appropriate descriptive and inferential statistics.

Results and Discussion

Socio-economic characteristics of extension workers

Evidence in Table 4.1 shows that 69.5% of the extension workers in the study area were males while female constituted only 30.5%. The findings reveal that extension organization in the study area is dominated by male The implication of this finding is that extension workers might find it difficult to access women in area where culture limits

the interaction of men and women and if the few women extension workers are to be used to access their women farmers and rural dwellers, they might be overwhelmed with such responsibilities since women constitutes between 60 and 80% of the agricultural labour force in Sub-Saharan Africa and in Nigeria, they contribute as high as over 50% (Gebre, Isoda, and Rahut, 2020). Therefore, having few extension workers as women may be a barrier to having regular contacts with women as extension clientele, especially in areas where there is a cultural barrier to interacting with opposite sex reveal that the mean age of the extension workers in the study area was approximately 47 years and less than 1% (0.7%) were less than 30 years old while 33.1 and 64.2% were between 30 and 44 years and 45 and 59 years old, respectively and only 2.0% of the respondents were 60 years and above. The findings show that although, many of the respondents were found between 45 and 59 years but the mean age of 47 years indicates that extension workers in the study area were in their middle age that about 55.0% and 42.4% has between 12 and 16 years and 17 years and above as their years of schooling, while 2.6% of the extension workers had less than 12 years of formal education respectively. show the educational qualification of extension workers in the study area. It was revealed that about 61.6% of the agricultural extension workers had bachelor or Higher National Diploma while 33.1% had Masters degrees with only 5.3% indicating that they had either National Certificate in Education or Ordinary National Diploma It was observed that most of the agricultural extension workers were married as about 93.4% of them indicated married as their marital status while very inconsequential proportions (0.7%, 2.6%, 1.3% and 2.0%) showed that they were single, divorced, separated and widowed, respectively. The fact that most of the agricultural extension workers were married may be used to proxy their commitment to extension works as marital status had been documented by extant literature such as Kemunto, Adhiambo and Bosire (2018), Anyango, Ojera and Ochieng (2013) and Darko-Asumadu, Sika-Bright and Osei-tutu (2018) established that marital status had an influence on job satisfaction where the married were much happier in their jobs than the single. This shows that being married may positively influence commitment and involvement in extension works. The finding shows that agricultural extension workers in the study area had moderate household size of about 6. The findings conform with the studies of Ogunwande, Odefadehan and Akinrinola (2018) and Okwuokenye and Okoedo-Okojie (2014) which reported that agricultural extension workers in Nigeria had between low to moderate family size as compared to most farmers with, Results show that the mean annual income of agricultural extension workers in Nigeria based on the selected sample was approximately 1.432,280.00. This shows that on average, an extension worker receives about ₦119, 356.66 per month as salary. This is in conformity with the salary structure of civil servant in Nigeria where

the minimum wage is pegged at ₦30,000 for a level one officer without educational attainment. On the experience with the number of years spent on the job, results show that on average, extension workers in the study area had spent about 13 years on the job. Specifically, 27.2% indicated less than 10 years of experience, 58.9% showed that they had spent between 10 and 19 years while 13.9% had spent 20 years and above as agricultural extension workers in the study area. This shows that agricultural extension workers

had reasonable experience in carrying out extension works and as such they would have been exposed to training on the use of web-based tools in the discharge of their duties as information experts. This study conforms with the assertions of Okwuokenye and Okoedo-Okojie (2014) who reported over 17 years of experience for the extension workers in Delta State, Nigeria while Davis et al. (2019) reported 15 years as the average years of experience among extension workers in Nigeria

Table 4.1: Socio-economic characteristics of extension Workers

Variables Deviation	Freq.	Percentage	Mean	Std. Dev.
Sex				
Male	105	69.5		
Female	46	30.5		
Age (years)				
<30.00	1	0.7		
30.00 - 44.00	50	33.1	47.25	6.32
45.00 - 59.00	97	64.2		
60.00+	3	2		
Years of formal schooling				
<12.00	4	2.6		
12.00 - 16.00	83	55	16.81	2.78
17.00+	64	42.4		
Highest Educational qualification				
Secondary school				
NCE/ND	8	5.3		
BSc/HND	93	61.6		
M.Sc	50	33.1		
Ph.D				
Attend any professional training	57	37.7		
Marital status				
Single	1	0.7		
Married	141	93.4		
Divorced	4	2.6		
Separated	2	1.3		
Widowed	3	2		
Household size				
<5.00	19	12.6		
5.00 - 9.00	122	80.8	6.13	2.17
10.00+	10	6.6		
Average income per annum (₦)				
<1000000.00	125	82.8		
1000000.00 - 1499999.00	10	6.7	1432280.00	372091.07
1500000.00+	16	10.6		
Experience (Years)				
<10.00	41	27.2		
10.00 - 19.00	89	58.9	12.64	6.10
20.00+				
	21	13.9		

Source: Field Survey, 2021.

Usage of web tools

On the usage of web tools, results in Table 4.2 show that WhatsApp (Mean = 2.03), facebook (Mean = 2.17) and Google plus (Mean = 2.11) were the only web tools that had high usage among agricultural extension workers in the study area. Usually, understanding the mode of operations of these web tools is very critical to usage. The level of usage seems low and this may not translate to low awareness as Oyakhilomen et al. (2020) and Umar et al. (2015) pointed out that awareness of a technology may not lead to usage as factors that promote usage are different from those that support awareness, although awareness is a critical and the first stage in the adoption process as documented by Rogers (1962) in the diffusion of innovation. The low level of usage of the agricultural extension agents may be due to many factors such as availability, accessibility, relative advantage and cost as opined by Ezeh (2013) and Akintonde et al. (2021) in their studies. Currently, many web tools are being social for social networking and professional engagement but the factors underling their usage differ and knowledge of the web tools also depend on the environment and age of the users.

Table 4.2: Usage of web tools by extension agents

| Usage | Ext. Workers | |
	Mean	Std. Dev
Twitter	1.99	0.81
Instagram	1.93	0.77
Wikis	1.81	0.89
YouTube	1.91	0.88
Soundation	1.76	1.03
WhatsApp	2.03*	0.95
Skype	1.99	0.98
Facebook	2.17*	0.96
Google plus	2.11*	0.99
Telegram	1.75	0.95
Zoom	1.97	1.36

Source: Field Survey, 2021.
Mean > 2.0 = High Usage

Constraints to the use of web tools

Evidence in Table 4.3 shows that almost all constraints identified to the use of web tools were severe except complexity in the use of the tools (Mean = 1.99), needs for special trainings (Mean = 1.97) and reduction in the family physical contact and relationships (Mean = 1.72). This means that constraints such as poor internet coverage, lack of awareness on the availability, poor or total lack of electricity or power supply and high cost among others were constraints with high level of severity to the use of web tools in information dissemination. The findings conform

with the extant studies conducted by Agbo (2015), Adelakun et al. (2020), Umar et al. (2015), and Mustapha et al. (2018) that reported cost of web tools, poor or lack of internet connectivity, poor electricity supply, and lack of technical know-how as the major constraints for effective use of web tools in Nigeria.

Although, several constraints militating against the usage of web tools were identified in this study but language barriers (Mean = 2.10), electricity supply (Mean = 2.04), complexity in the usage (Mean = 2.06), limited knowledge and skills (Mean = 2.01), high cost (Mean = 2.00), requirements of certain type of conditions (Mean = 2.13) hacking problems (Mean = 2.11) and availability of irrelevant contents among others were the severe constraints to the utilization of web tools for information management from the farmers' perspective. These are serious constraints that may impede the usage of these web tools by the extension workers in Nigeria. This is because some of the constraints are generic and systemic within the context of Nigeria as a nation.

Table 4.3: Constraints to the use of web tools

| Constraints | Ext. Workers | |
	Mean	Std. Dev
Poor internet coverage	2.19	0.19
lack of awareness of information sources available and untimely provision of information	2.09	0.93
Language barriers (as the majority of the text is in English)	2.04	0.94
Electricity/power failure	2.28	0.82
Complex to use	1.99	0.82
Limited knowledge and skills in webtools	2.13	0.75
High cost	2.52	0.62
It requires special types of devices to use some of the webtools	2.16	0.76
Availability of irrelevant/ undesirable content	2.03	0.77
Special training is needed to use web tools	1.97	0.75
Hackers often hack into accounts created with the Web tools	2.18	0.73
Virus attack on files can cause a lot of damage	2.03	0.76
Message delivery can be delayed at times	2.13	0.72
I sometimes encounter technical barriers and malfunctioning of devices	2.11	0.74
It is reducing family physical contact and relationship	1.72	0.74

Source: Field Survey, 2021.
Mean > 2.0 = Severe

Conclusion

Based on the above findings, the study therefore concluded that, the usage of web tools among the agricultural extension workers in south-west Nigeria has a significance

positive relationship with age, annual income, house hold size and years of experience. Also, web tools usage has crucial role to play in promoting quality extension delivery, best agronomy practices and promoting new generation agriculture and make agriculture more lucrative and sustainable as well as improving livelihood in Nigeria. However, some constraints were identified with the use of web tools during the period of carrying out this study, such constraints are: poor internet coverage, lack of awareness of information sources available and untimely provision of information, high cost, complex to use, it requires special types of devices to use some of the webtools etc.

Recommendations

Following the results, the following suggestions were made:

1. Agricultural Extension workers, most especially must be trained on the use of web tools to disseminate agricultural information to their clientele.

2 Agricultural stakeholders should find a way to encourage the use of web tools among extension workers in the study area.

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